STABILITY STUDIES OF NATURAL AND COMPLEX DYES IN DIFFERENT SOLVENT AND POLYMER SYSTEM

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This final year project report entitled **"Stability Studies of Natural and Complex Dyes In Different Solvent and Polymer System"** was submitted by Rohaity Ramli, in fulfillment if requirements for the degree of bachelor Science (Hons.) Applied Chemistry, in the Faculty of Applied Sciences, and was approved by

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in the name of Allah, most Gracious, most Merciful

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ABSTRACT

STABILITY STUDIES OF NATURAL AND COMPLEX DYES IN DIFFERENT SOLVENT AND POLYMER SYSTEM

Purple sweet potatoes anthocyanin (PSPA) was extracted using two different solvents; water and ethanol in acidic condition. PSPA and Tin phtalocyanine dichloride were doped in PMMA. The stabilities of dye and dye doped polymer were then evaluated by exposure to UV lamp and storage at different temperature. Measurement using UV-VIS spectrometer and Fluorescence spectrometer were performed. The absorbance of dye and dye doped polymer are tend to reduce during the prolong time of exposure to UV lamp and complex dye is more stable compared to PSPA. Storage at high temperature bleached the colour of PSPA and reduced its absorbencies and intensities, thus the dye doped polymer solution should not be stored at room temperature or higher temperature at 50°C. However, PSPA in water should be left at room temperature where it shows higher intensity upon prolonged of storage time. PSPA doped in PMMA has the highest capability to fluoresce at 4°C and at room temperature.